

8 DEC 93

ECA
P11WILLCOME
LIBRARY

General Collections

+P

189

Dr. S. Monckton Copeman's Report to the Local Government Board on the Sanitary Condition of the River Brent, in the County of Middlesex.

R. THORNE THORNE,
Medical Officer,
November 8th, 1893.

DURING the autumn of last year (1892), and since then at intervals up to the present time, numerous complaints have been received by the Board, more particularly from private residents in its neighbourhood, as to the foul condition of the River Brent. In consequence of these communications, and after prolonged correspondence with the various Sanitary Authorities within whose districts the various portions of the river are situate, the Board determined to institute an inquiry into the present condition of the river, which I received instructions to make accordingly.

As a first step, I met by appointment the officials of the Willesden Urban Sanitary Authority, at the offices of the Local Board at Kilburn, having learnt from previous correspondence that general opinion indicated this Authority as principally concerned in the pollution of the Brent by discharge of the effluent from the Willesden sewage farm into the channel of the river at several different points.

At this meeting I was informed that the greater portion of the water, which at one period had been accustomed to find its way into the Thames along the river channel, was now diverted by the Regent's Canal Company, which had obtained Parliamentary powers to "head up" the water of the Brent by building a dam across the Brent valley at a point just north of Kingsbury-Neasden. In this way has been formed the body of water known as the Brent, or "Welsh Harp," Reservoir. From this the Regent's Canal is fed by a separate conduit, the water which is not needed for this purpose being discharged over a weir about 70 feet in height into the old channel of the River Brent. It was further stated that the result of these works is that, while in dry weather, such as has persisted for some time past, no water at all finds its way from the reservoir into the river below, at times of heavy rainfall, when the flood gates are opened, the rush of water is so great as to tear up the river bed, and often to bring about considerable diversions of the normal course of the stream.

Numerous holes and pits, it was stated, are at the same time formed in the channel, in which débris of all kinds which may be carried down by the water tends to accumulate. This being the case, when the water supply is scanty that portion of the river which divides the Willesden and Hendon districts is represented merely by a series of stagnant pools, the intermediate portions of the channel being practically dry. According to the statement of the deputy clerk to the Willesden Board, this state of things would be more frequent than at present but for the effluent water supplied from the Willesden sewage farm. On my asking him for information as to the nature and composition of such effluent, he handed me a copy of a report on a series of analyses recently made by Dr. Midwinter of samples taken from different points. A table (A) showing the result of such analyses I append to this report.

Learning further that no water whatever had been passed on to the river from the reservoir for about four months, I decided, after consultation at office, to restrict, in the first instance, my proposed survey of the river to that portion which lies south-west of the "Welsh Harp," since it was obvious that, whatever might have occurred in the past, any contamination of the upper portions of the streams by which the reservoir is fed could have but little concern with the condition at the present time of the portions of the Brent below that reservoir.

A few days later I commenced a systematic survey of the river from the reservoir downwards, with special reference to the position and nature of the various sources of possible pollution of the stream which were to be found along its course.

And here it should be mentioned that the centre of the lower River Brent, flowing at first in a more or less south-westerly direction, forms the boundary line between districts of the Sanitary Authorities on the one and the other side of it. Referring in the first place to the portion of the river between the Brent reservoir and the Ealing Road, the whole of its right bank is in the district of the Hendon Rural Sanitary Authority, while its left bank is up to a point which is situate about midway between the Harrow Road and the London and North-Western Railway line, in the district of the Willesden Urban Sanitary Authority. From this point to Vicar's Bridge it is within the jurisdiction, first, of the Brentford Rural Sanitary Authority, and subsequently (with the interposition of a detached portion of the Hanwell District) of the Ealing Local Board.

During my survey I was accompanied by the Medical Officers of Health and the surveyors of the sanitary districts severally concerned.

In the first place I visited the "Welsh Harp" Reservoir, the south-western extremity of which I inspected, together with the weir over which water falls in flood time into the lower Brent. At the time of my visit the level of the water in the reservoir was about 9 feet below the sill of the weir, while the basin below had become converted into a grass field, the soil of which was so hard that a walking stick made but little impression even when considerable force was employed, showing that it could not have been under water for some considerable time past. From the foot of the weir for a space of about 300 yards we found, on walking along the winding course of the stream, that the bed was completely dry, with the exception of a couple of small pools each of about 10 feet diameter.

Just above the point at which the Metropolitan Railway bridge crosses the stream we found, on the left or Willesden bank, an open channel coming apparently from the railway works. This is intended to convey surface water only, but the water issuing from it had a smell as of gas, which I was informed was due to the ground in the neighbourhood having become strongly impregnated with oil from the works. At this point is a pool from 10 to 12 feet in width, the water of which looked very dirty. Under the bridge, however, the amount of water in the river bed is again extremely small, the stream, if so it can be called, being only about $1\frac{1}{2}$ feet wide and a few inches in depth.

A little lower down is a brick weir with a sluice gate in its centre, which has been built across the bed of the stream by the Willesden Authority, above which is a pool caused by the heading back of the small quantity of water present in the portion of the stream above. Below this weir certain effluents from the sewage farm belonging to the Willesden Urban Sanitary Authority find entrance to the river bed at two different points, while further down, at the lower extremity of the sewage farm, a second weir has been built. This also has a sluice gate in its centre. The space between the two weirs has been cleared out, the bottom cemented, and sumpt holes sunk at intervals, and in this way has been formed in the bed of the river what is practically an extra settling tank for the "effluent" of the sewage works. As this fills, its contents discharge themselves over the lower weir into the river channel, while at varying intervals the whole contents are let off through the sluice.

As will be seen from the foregoing description, at the present time, for all practical purposes, the effluent of the sewage farm may be looked upon as the source of the River Brent.

I examined specimens of effluent from the various points, and in each case found the fluid to be of a dirty straw colour, turbid, containing obviously much suspended matter, and having a faint sickly smell.

Immediately below the second weir an open ditch, called the Mitchell Brook, joins the main channel, on the left or Willesden side, at an acute angle. This brook brings in water from one of the farm effluents together with a little surface water from the surrounding land.

At the time of my visit the amount of water in the river bed below the second weir was extremely small, as the river between the weirs had not been run off

for some time. Commencing, however, a short distance below the weir, a sort of high-water mark was visible on either bank, below which level the whole bed of the stream was absolutely black as if a river of ink had been flowing over it. This state of things would appear to be caused by some decomposition of the effluent water from the sewage farm; no other cause for it was obvious. The colour is, according to a report by Dr. Midwinter, due to a precipitate of iron sulphide, the iron of which in the form of red oxide is stated to be derived from the surface drainage of the surrounding land.

From this point until Harrow Road, which crosses the river at right angles, is reached, nothing apparently is added to the stream with the exception of a little surface water from one or two open and shallow land drains. Just at this point the stream divides into two, one channel passing straight on beneath the Harrow Road bridge, while the other channel forms a loop which in turn passing under the road at a point more to the south then turns on itself and again joins the first at a short distance from where it left it. This loop represents the former course of the stream, the short and straight junctional portion having been cut out at a time when, owing to considerable downpour from the Brent Reservoir, the river was in flood.

At the point where the loop of the stream is about to pass below the Harrow Road, I found a large 18-inch pipe with swing flaps, from which, however, nothing was flowing at the time of my inspection. This pipe was traced back to a manhole, which receives a sewer from "Lower Place," the drainage from which portion of the Willesden district used to pass by this route directly into the river. I found, however, that the pipe on the river side of the manhole had been closed with brickwork, the sewage being now led off by a new culvert in connexion with the Willesden low level sewer to the sewage farm of which mention has already been made.

On this side of the stream the jurisdiction of the Willesden Local Board ceases about half way between the point at which the two channels of the stream again unite, and that at which the line of the London and North-Western Railway crosses the river. Beyond is Twyford parish in the Brentford Rural Sanitary District, the other bank of the stream being, however, still in the Hendon Rural District.

The river now deepens and widens suddenly, a large pool being thus formed under the railway bridge, while immediately below the stream once more becomes duplicated, a straight course having been cut out by the water, fairly recently, between the railway bridge and an aqueduct lower down by which the Grand Junction Canal is carried over the river. The more curved and old course is now hardly visible, while at the time of my visit the new cut was almost dry except for small pools at varying distances from one another.

Alongside the Grand Junction Canal, where this is carried by an aqueduct over the Brent and at right angles to the stream, there are to be seen, on both sides of it, enormous heaps of London refuse, consisting of "hard" and "soft core" and of gas lime, which to the amount of many thousands of tons have been deposited here by contractors. At the upper level these heaps are flush with the canal towing-path; and as they are situated on either side (and practically up to the edge of) the river, the latter appears to flow through a cutting at this point.

On the Hendon side of the river is a small spring, furnished with a dipping-place, which has become fouled by the drainage from one section of the heap. The contents of this dipping-place would doubtless overflow into the river with the first downpour of rain. On the Brentford side numerous shallow channels, cut out in the soil, afford demonstration of the fact that a considerable, if not the greater portion of the drainage of these huge filth accumulations (which are of greater extent on this than on the Hendon side) finds its way by such routes to the stream, the waters of which thus become fouled to an extent which it is difficult for anyone who has not actually visited the spot to adequately appreciate. Obviously the amount of such drainage would be greatest at periods of heaviest and most continuous rainfall, at which times the river would tend to be in flood, and to carry away this liquid refuse to a distance. But on the other hand much of the suspended matter, derived from the refuse heaps, which is carried into the river must,

after a longer or shorter time, settle and probably putrefy in the numerous pits with which the bed of the stream has become eroded.

The Brentford Rural Sanitary Authority appear to have taken no steps to prevent the serious pollution of the stream which has been brought about by the deposit of this "London refuse" in their district. The Medical Officer of Health for the Hendon Rural Sanitary District (Mr. Campbell Gowan) has, however, on several occasions called the attention of his Authority to the matter in his annual reports, with the result that in the spring of 1892 the Hendon Authority brought an action against the contractor, who had to be proceeded against in the Brentford Police Court, as the "heap" chiefly complained of was in the district of the Brentford Authority. Unfortunately, however, experts were found who advanced the opinion that no nuisance had been caused, and notwithstanding the evidence to the contrary effect of the Medical Officer of Health the summons was dismissed. Happily the matter was not allowed to rest here, having shortly after been taken up in his private capacity by the occupier of Twyford Abbey. Sufficient evidence was now produced of the existence of a nuisance at the Abbey proceeding from the refuse heaps, although these are situate at a distance of more than 400 yards away, and in the end the contractor, as defendant, had to submit to an injunction.

In this way the further deposit hereabouts of such refuse has been prevented for the future, but although any further increase in the dimensions of these rubbish heaps has been stopped, the nuisance caused by them, particularly with regard to their drainage into the Brent, has by no means been done away with, and unless some means can be devised for diverting the present flow of such liquid sewage and for treating it satisfactorily, as by filtration through comparatively uncontaminated soil before it reaches the river, the latter will continue to become polluted in a manner at once disgusting and possibly dangerous.

Lower down the river and just beyond the Twyford Abbey grounds, and still in the district of the Brentford Rural Sanitary Authority, I came upon a pipe discharging a small amount of what appeared to be sewage matter, which I was informed was the overflow from a cesspool at Twyford Abbey.

No further point of contamination of the stream is to be found until the Ealing road, where it crosses the Brent, is approached. About 50 yards above the bridge and on the Hendon side of the river are, first some piggeries belonging to a man who may be termed Mr. X., and then a line of cottages straggling on towards the bridge, known as Brent Cottages. The piggeries are separated from the river by a hedge and a narrow strip of turf, in which is a shallow ditch eventually joining the Brent. Passing under this hedge and opening into the ditch is a 12-inch pipe, which when I saw it was discharging a small amount of stinking and dirty fluid, apparently sewage. On examining the piggeries it was found that the drainage from them was being carried by a shallow channel cut in the surface of the adjoining grass field to a point very close above the drain pipe, which eventually becomes visible on the other side of the hedge. It appeared, then, that the sewage matter trickling from the drain pipe, and eventually finding its way to the river through the ditch originated in the flow from the piggery. This, however, was indignantly denied by the owner, who stated that he had only that day turned his drainage into the field, because of a pipe leading to his cesspool having become blocked. I accordingly asked the surveyor to the Hendon Rural Board to investigate the matter. This he has since done, with the result that he finds that the pipe drain in question has no direct connexion with the piggeries, although, as it is composed of unsocketed pipes, it is quite possible that when I saw it some of the drainage from them which had been led into the field was soaking into and escaping by it. The results of the surveyor's investigation, indeed, go to show that the drain commences at some distance from the Brent, on the far side of the Grand Junction Canal, which here runs for some distance parallel with the river. Commencing as an open ditch leading to a cesspool it passes by a siphon under the canal, whence it runs in a straight line underground to that point at which it comes into view beneath the hedge, as I have previously described. About midway between the canal and the river it receives the overflow from a cesspool in the grounds of Alperton Lodge, which is situate on the Ealing Road.

I found no further evidence of drainage into the river until the extreme limit of the district of the Hendon Rural Sanitary Authority is reached, about a mile from Vicar's Bridge. Here, on the right bank, within a few yards of one another are three points at which effluents from a small sewage farm belonging to the Hendon Rural Sanitary Authority find their way into the river. At the time of my visit the stench from land on which the sewage is distributed was very great, but specimens of effluent taken from the different points of exit appeared to be of fairly good character, as far as could be tested by the senses. Complaints indeed of this farm are numerous, and I was informed that the river often smells very badly at a short distance below the effluent exits. If this be so, it is probably due to a later putrefaction of organic matter contained in the effluents, and possibly in part due also to smells conveyed by the air from the malodorous sewage farm itself.

For various reasons, chief among which may be mentioned the fact that many of the officials of the various Sanitary Authorities concerned were, at the date of my inspection, away for their annual holiday, I have not myself surveyed the river below this point, but I am in possession of a list of suggested sources of contamination noted by the surveyor to the Middlesex County Council and supplied to me by the clerk to that body.

Although at present I have traced the Brent no further than the point at which it passes out of the Hendon Rural Sanitary District, the portion of the river which I have myself surveyed includes well-nigh all that part concerning which special complaint has reached the Board from various sources.

That at the present time this portion of the river is seriously polluted there can unfortunately be no doubt, and it may therefore be advisable briefly to recapitulate what I believe to constitute the chief conditions of such pollution:—

1. The fact that in dry weather, owing to the action of the Regent's Canal Company, no water from the upper reaches of the Brent is allowed to pass over from the "Welsh Harp" Reservoir to the lower portion of the river.

2. In seasons of excessive rainfall the opening of the sluice gates of the "Welsh Harp" Reservoir, by allowing a sudden outburst of water, has not infrequently torn up the bed of the stream below the reservoir, sometimes diverting the course of certain of the reaches, and causing the formation of deep pits at various points, in which foul matters can accumulate.

3. The condition of the effluents from the sewage farms of the various public authorities which discharge into the River Brent below the reservoir is for the most part decidedly unsatisfactory.

4. At different points throughout the course of the river below the reservoir crude sewage and other putrescent fluids are discharged into the stream by private owners and others.

5. Not least important as a factor in pollution of the Brent is the foul liquid which, exuding from the large heaps of London refuse, passes into the river just above the point at which the Grand Junction Canal is carried over the stream.

I append analyses of Willesden sewage effluents by Dr. Midwinter, certain extracts from recent reports of the surveyor to the Willesden Board, and copies of letters which have recently passed between the Middlesex County Council and the various authorities through whose districts the River Brent flows.

S. MONCKTON COPEMAN.

31st October 1893.

(A.)—WILLESDEN SEWAGE AND EFFLUENTS. Samples taken May 15th, 1893.

Analyses expressed in parts per 100,000.

Nos.	Description of Samples.	Appearance.	Odour.	In Solution.						Matters in Suspension.		
				Sulphuretted Hydrogen.	Nitrogen as			Oxygen required to oxydize the Organic Matter.	Chlorine as Chlorides.	Total.	Organic	Mineral.
					Ammonia, free and combined.	Organic Matter.	Nitrites, Nitrates.					
No. 1	Crude sewage -	-	-	Present	10.73	0.73	None	4.14	11.77	69.67	46.70	22.37
"	After passing through tank !	-	-	"	9.92	0.61	"	3.35	11.77	12.80	3.06	9.74
"	Effluent from New Field	-	-	None	1.05	0.25	0.021	1.57	10.14	2.53	0.90	1.63
"	North effluent -	-	-	"	1.90	0.18	Trace	0.82	10.14	4.61	1.54	3.07
"	South effluent -	-	-	"	5.08	0.24	None	1.06	9.93	3.09	0.77	2.32
"	Effluent to Mitchell	-	-	"	5.66	0.27	"	1.57	10.14	1.74	0.50	1.24
"	River at Twyford	-	-	"	1.41	0.29	"	1.59	10.55	1.67	0.47	1.20
"	River just above confluence with old arm of Brent (water backed up at the time).	-	-	"	2.65	0.15	Trace	0.92	9.34	1.01	0.30	0.71

No. 1.—Was a sample of strong sewage.

" 2.—The matter in suspension in the sewage has here been fairly well removed ; if a longer time had been allowed for settlement the result would have been more satisfactory.

Nos. 3 and 4.—Were good effluents. A very considerable amount of organic matter had disappeared, and oxidation was proceeding favourably, as shown by the presence of nitrites. The matter in suspension was not excessive. In the case of No. 3 no water had been on the field for some days.

Nos. 5 and 6.—Were also good effluents, but not quite so good as Nos. 3 and 4.

No. 7.—The river at Twyford is practically of the same composition as the effluents ; the water is black from the presence of minute parasites of iron sulphide in suspension. It is more offensive than the effluents.

" 8.—This is practically a sample of good effluent, oxidation (as shown by the presence of nitrites) is proceeding favourably. There is no sign of secondary putrefaction. The odour is of an earthy character.

The effluents Nos. 3, 4, 5, and 6, are all fit to run into the "Brent."

(Signed)

E. H. MIDWINTER, F.L.P.S.,

Fellow Institute Chemistry,

Analyst to Windsor Borough.

(B.)

WILLESDEN LOCAL BOARD.

EXTRACTS FROM ENGINEER'S ANNUAL REPORTS, 1890-91 and 1891-2.

1890-91.—*Extract.*

As the Board are aware, two tanks, containing a capacity of about 100,000 gallons each, are provided for precipitation purposes. One of these tanks only can be in use, whilst the precipitated solids are being removed from the other. No quiescent settlement of the water in the tanks can take place, and the only opportunity, therefore, for precipitation, prior to the effluent from the tanks passing on to the filter beds, is in the course of passing through this one tank, 100 feet in length and 50 feet wide. This is altogether inadequate for efficient precipitation, which would require at least three times the area. In consequence of the limited capacity of the tanks, many solids, as indeed much of the precipitating medium itself, pass through the tanks without precipitation, and are deposited on the filter beds, thus gradually destroying them by choking them with a slimy deposit on the surface which is removed when possible. With the limited area of land, however, this work is found to be impracticable for the greater part of the year owing to the necessity at most times of flooding the entire field. Not only are the filter beds thus greatly damaged, but the effluent from same into the river is also largely charged with solids that should have been arrested prior to flowing on to the land. To obviate the evil results of this to the river below, I have thoroughly cleansed the bed of that section of the river upon which the sewage field abuts and constructed a dam at each end, thus converting it into a tank to receive the precipitation of any solids contained in the effluents from the filter beds. This "tanking" of the river is but providing artificial dams in place of the natural obstacles that formerly existed, but the advantage obtained by the artificial over the natural "tanking" of the river is the facility accorded for cleansing. This is provided for by a floating arm and draw-off valve fixed in lower dam, by which the whole extent of the tank can be emptied and the solids precipitated and as easily removed as in the concrete tanks, where the preliminary precipitation of the solids takes place. The bed of the river is concreted for the entire surface, and sumpt holes are constructed for the reception of the sludge. The total area of the river thus converted is about 20,790 superficial feet, and I am of opinion that the work thus executed will greatly tend to improve the condition of the river in the lower reaches.

The general condition of the river is, however, so deplorable that little good can be effected until it is properly cleansed, straightened, and bed levelled almost from source to finish. At present in dry seasons all water east of Edgware Road is arrested by the Canal Company for storage in the "Welsh Harp" reservoir. In exceptionally wet seasons the sluices are opened and a deluge contributed from the reservoir to the lower portions of the river. Thus when wanted no water is forthcoming, when it could be dispensed with too great generosity is shown by the Canal Company in supply. As stated on former occasions, I am strongly of opinion that the company possess no statutory rights as to discretion in this matter, but that the daily normal flow from the reaches above the reservoir shall be contributed to the lower river, the storage taking place only during the rainy seasons when the upper river yields an abnormal supply. The matter is now referred to the solicitor of the Board for his report, and I trust it may result in the company being compelled to provide the normal daily flow to the river passing through the Willesden parish, instead of diverting the entire flow in dry seasons by the feeder to the canal.

Pending, however, any action on the above, the condition of the river at the present time demands attention. So bad is it in some parts that I have been compelled to execute certain works for cleansing same and promoting a flow of water. At intervals deep pools exist, containing the deposit of years, with obstructions on either side holding back decaying vegetation. Indeed it can scarcely be called a river, no stream being apparent for three-fourths of its course; but it is rather a series of foul pools, separated from each other by fallen trees and other obstacles over which the top water from the pools slowly trickles. I have in several instances examined these pools, and find them to be largely filled with a black and foul deposit. It is, therefore, hopeless to attempt to purify sewage that has eventually to pass through such contaminating media as these pools. Their condition is the result of years of neglect, nothing having been done to the river to my knowledge for the last 17 years, which period might possibly be increased by the addition of 50 more years. The pools, therefore, have been receiving the crude sewage of Willesden for a considerable time, during which they have acted as cesspools with an overflow from one to the other. It is through these cesspools the effluent from the sewage works has to be taken, and the condition of the river erroneously ascribed to the effluent from the works, rather than the decomposing medium of the old cesspools receiving the crude sewage in days before the construction of the Brent sewerage system.

In order, therefore, to free the Brent district from an undeserved stigma, immediate action should be taken to clear the bed of the river, removing all obstacles, and filling in the foul pools now existing, also levelling the bed of the river, and insuring a constant flow for the entire length of the river. The riparian owners are doubtless responsible for

this work, there being no Conservators of the river; but it is so urgent a matter that I think the Board would be well advised if they themselves took the matter in hand.

1891-92.—*Extract.*

The condition of the River Brent, which has been dealt with at some length in previous Reports; has become so foul that it was absolutely necessary in 1891-92 to take some action in order to prevent a most serious nuisance arising therefrom. In very dry seasons the only contribution to the Brent of any importance between the reservoir and the London and North-Western Railway was the effluent proceeding from this Board's works, the actual flow of the river near to the bridge over the Harrow Road having for several days together been received by a 9-inch pipe. This meagre flow or contribution, as no flow was really apparent, meandered through a series of foul pools that have existed for years. These were in some cases 9 to 10 feet deep, and filled with the deposit of generations. Fallen trees, gravel embankments, and other obstacles, helped to add to the stagnation of the river, which condition, in the absence of any other authority, compelled this Board to take some action in the cleaning of same after final service of notice upon the riparian owners.

Action was therefore taken to remove all the obstacles, fill up the pools, and trim up the banks of the river between the outfall works and Harrow Road, which doubtless has effected some improvement. The work, however, thus executed was in a measure damaged shortly after completion through the usual action of the canal authorities, when possessing a surplus of water in the reservoir, by opening their sluice gates, and suddenly introducing a large volume of water into the river, which has before been perfectly dry. Fresh obstructions were thus washed up, and the old pools again slightly scoured out. Thus I am of opinion that constant attention to the river will be necessary so long as the canal authorities are allowed to hold back the normal flow from higher levels, and, on the other hand, to flood it abnormally at their convenience. The absence of a proper authority having jurisdiction over the river is, of course, the primary cause of its condition, as, with a controlling body, one of its first acts would be, I presume, to ensure its normal and legitimate flow, and prevent the undue damage that now occurs. I have so often brought this subject to your notice that I trust you will possibly, in conjunction with the Middlesex County Council, take some action to acquire powers, if not already possessed, to exercise some control in this direction.

River Brent.

County Council of Middlesex,
9, St. George Street, S.W.

DEAR SIR,

June 16, 1893.

I AM directed by the Chairman of my Council to ask that your Authority will appoint one of its members to represent your Authority at a Conference which it is proposed shall take place, with the Chairman of the Council and the Chairman of its General Purposes Committee and representatives of Sanitary Authorities whose districts abut on this river, with a view to discuss the question of pollution and of the diversion of the river water by the Canal Companies at the Brent Reservoir.

I shall be glad to hear that your Authority will appoint someone to represent them at the Conference, and I will shortly let you hear from me again with reference to the date on which the Conference is to be held.

I am, dear Sir,
Yours faithfully,
(Signed) RICH. NICHOLSON.

S. Tilley, Esq.,
Willesden Local Board.

Pollution of the River Brent.

County Council of Middlesex,
9, St. George Street, S.W.,

DEAR SIR,

June 16, 1893.

THE General Purposes Committee of my County Council have had under consideration complaints which have been made with reference to the condition of this river.

I am now directed to suggest that your Authority should, as a temporary measure and pending some general action, be good enough to take some steps with a view to disinfecting the river and so, to some extent, abate the nuisance from the river.

I am to state, for the information of your Authority, that my Committee are informed that the Willesden Local Board last month discharged into the river some 200,000 gallons

of clarified effluent strongly charged with chloride of lime, and that the Board propose to repeat this experiment again and again.

My Committee also understand that the Ealing Local Board have made use, at considerable expense, of chloride of lime with a view to the purification of the river.

I am to ask that you will bring this letter before your Authority at the earliest possible moment.

I am, dear Sir,

Yours faithfully,

RICH. NICHOLSON,

Clerk of the County Council.
